

## 5. Christie

**Program Name:** Christie.java

**Input File:** christie.dat

Christie is so intrigued with numbers and their properties. She of course adores prime numbers (and who doesn't?), but she also is very interested in other types of numbers like Fibonacci Numbers, Happy Numbers, Evil Numbers, Fermat numbers, etc. She is determined to create her own special numbers and name them Christie Numbers.

So, this is what she has decided to do.

A Christie Number is a whole number in which the sum of the squares of the digits is a perfect square.

Example: 148 is a Christie Number:

$$1^2 + 4^2 + 8^2 = 1 + 16 + 64 = 81$$

Since 81 is a perfect square, 148 is a Christie Number.

Christie will give you two integers A and B where you are guaranteed that  $A < B$ . Your task is to check every natural number from A to B (inclusive) and to list the Christie numbers in that range in order from smallest to greatest.

**Input:** Line #1 will consist of one integer N in the range [1,25] which indicates how many lines of data will follow. Each of the N lines of data will contain two integers A, then B. Both numbers are in the range [1,9999].

**Output:** Output a list of Christie Numbers in the range [A,B] written horizontally with one white space in between each. If there are no Christie numbers in that range, print "NONE".

**Sample input:**

```
5
10 20
30 50
100 200
50 55
41 42
```

**Sample output:**

```
10 20
30 34 40 43 50
100 122 148 184 200
50
NONE
```